

Clade Haplotype	Position														Frequency
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
A	12228	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	12109	T	C	T	T	C	T	T	T	T	T	T	T	T	16
	11310	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	10454	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	9685	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	9534	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	9198	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	8915	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	8058	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	7939	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	7779	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	6762	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	6379	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	6200	T	C	T	T	C	T	T	T	T	T	T	T	T	1
B	6187	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	6094	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	5867	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4956	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4919	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4813	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4800	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4732	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	4515	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	3920	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	3249	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	3220	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	2563	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	2579	T	C	T	T	C	T	T	T	T	T	T	T	T	1
C	2418	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	2405	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	2322	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	1408	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	1388	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	1176	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	770	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	611	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	429	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	376	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	362	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	12228	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	12109	T	C	T	T	C	T	T	T	T	T	T	T	T	1
	11310	T	C	T	T	C	T	T	T	T	T	T	T	T	1

FIGURE 1

Clade	Haplotype	837	1940	2313	2973	3063	3402	3514	3600	4054	4946	5329	5515	6118	6196	Frequency
A	1	C	G	A	C	G	G	G	T	T	T	G	T	A	G	18
	2	C	A	A	C	G	G	G	T	T	T	G	T	A	G	1
	3	C	G	A	C	G	G	A	T	T	T	G	T	A	G	1
	4	C	G	A	C	G	G	G	C	T	T	A	T	A	G	1
	5	G	G	A	C	G	G	G	T	T	T	G	T	G	G	8
C	6	C	G	A	T	A	C	G	T	C	C	G	C	A	C	16
	7	C	G	C	T	A	C	G	T	C	C	G	C	A	C	1

FIGURE 2

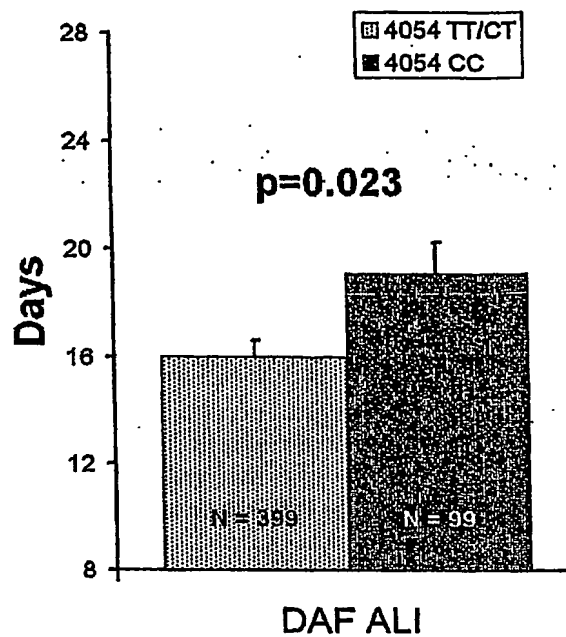


FIGURE 3A

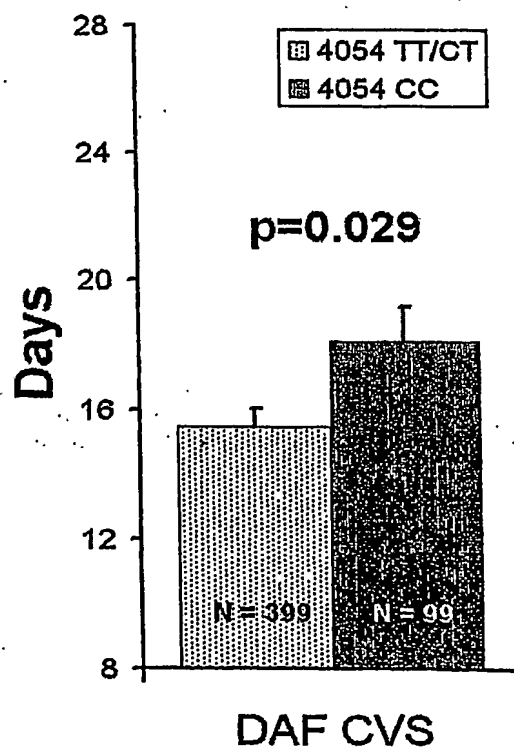


FIGURE 3B

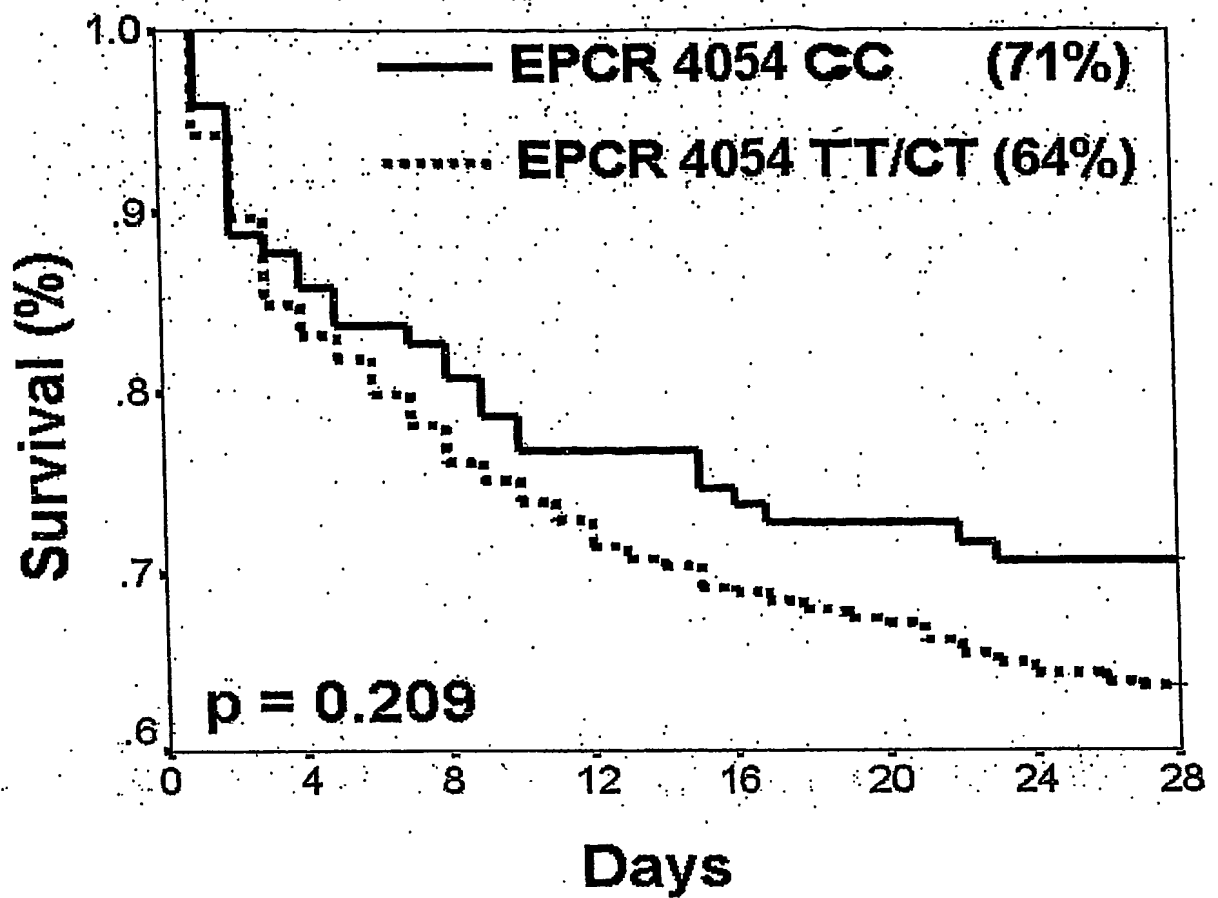


FIGURE 4

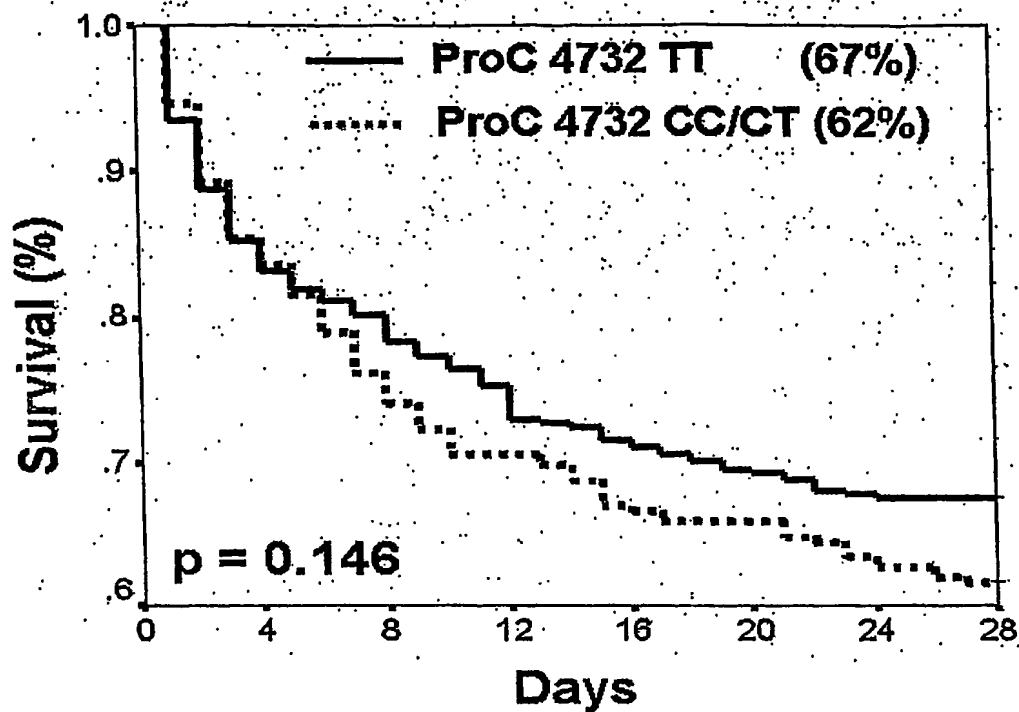


FIGURE 5A

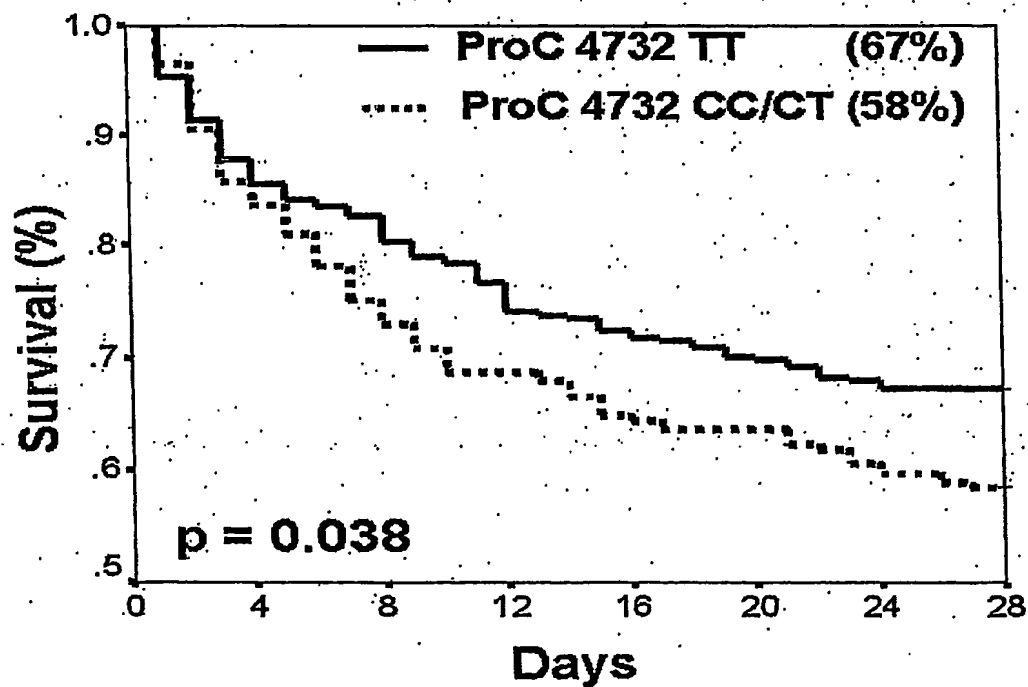


FIGURE 5B

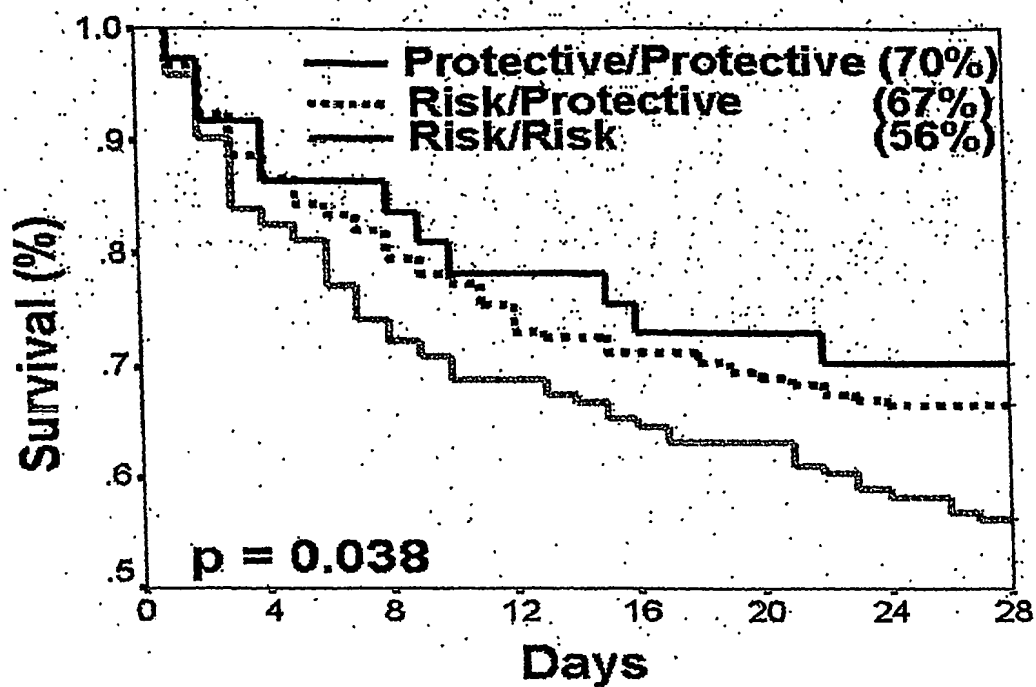


FIGURE 6A

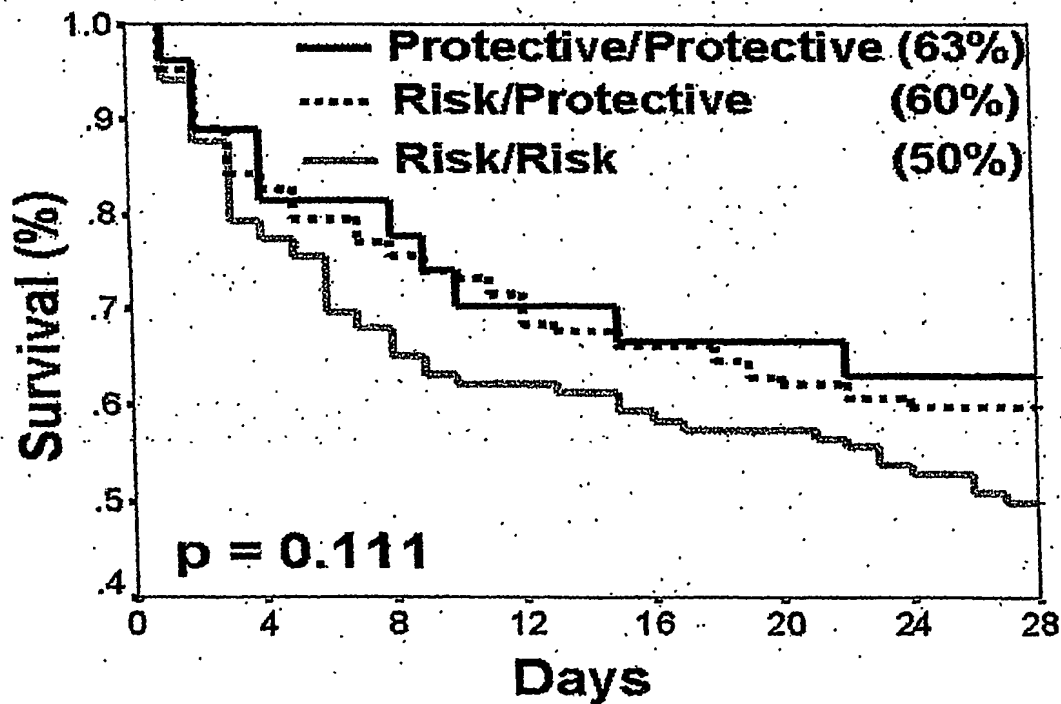
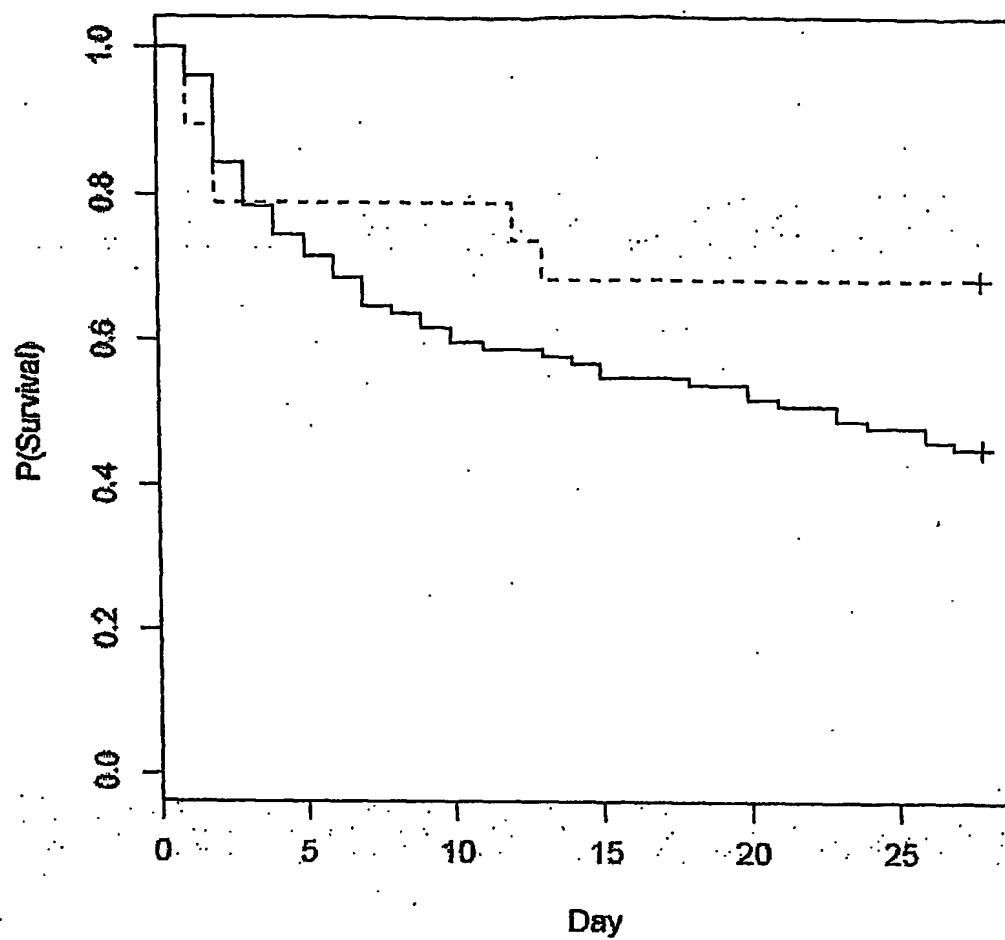
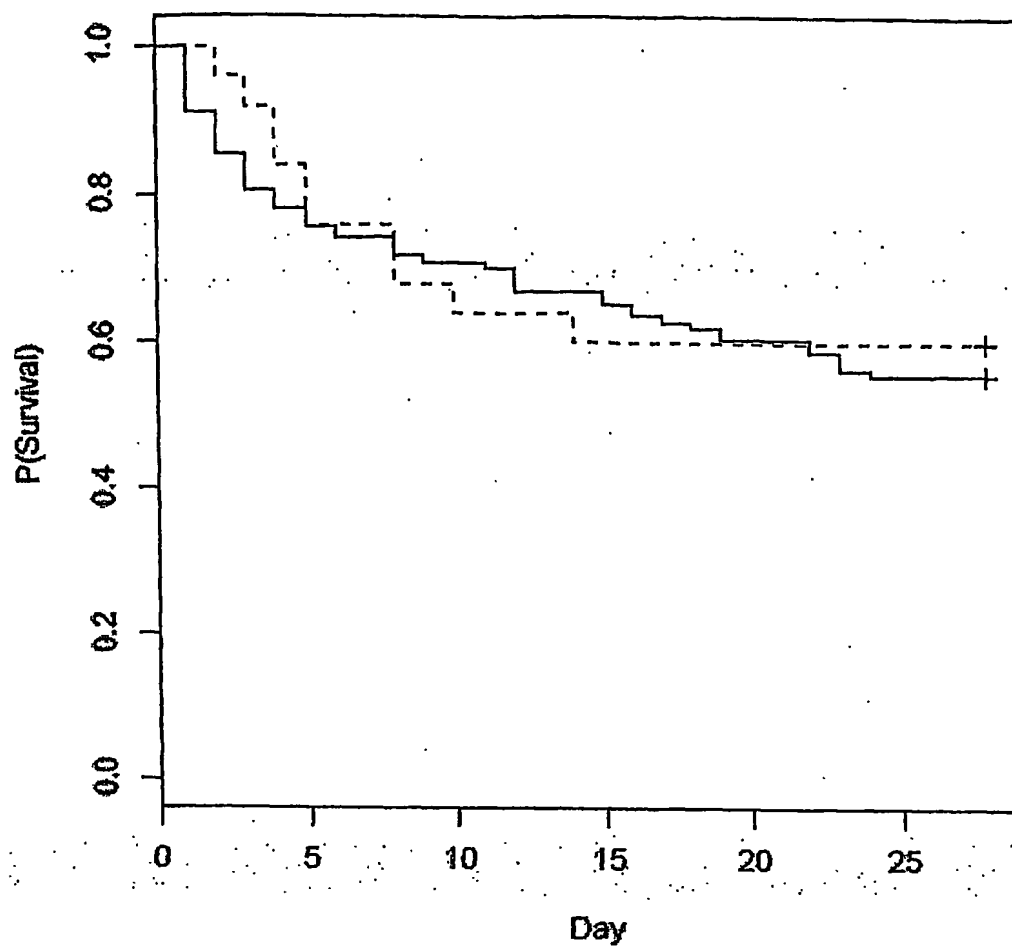
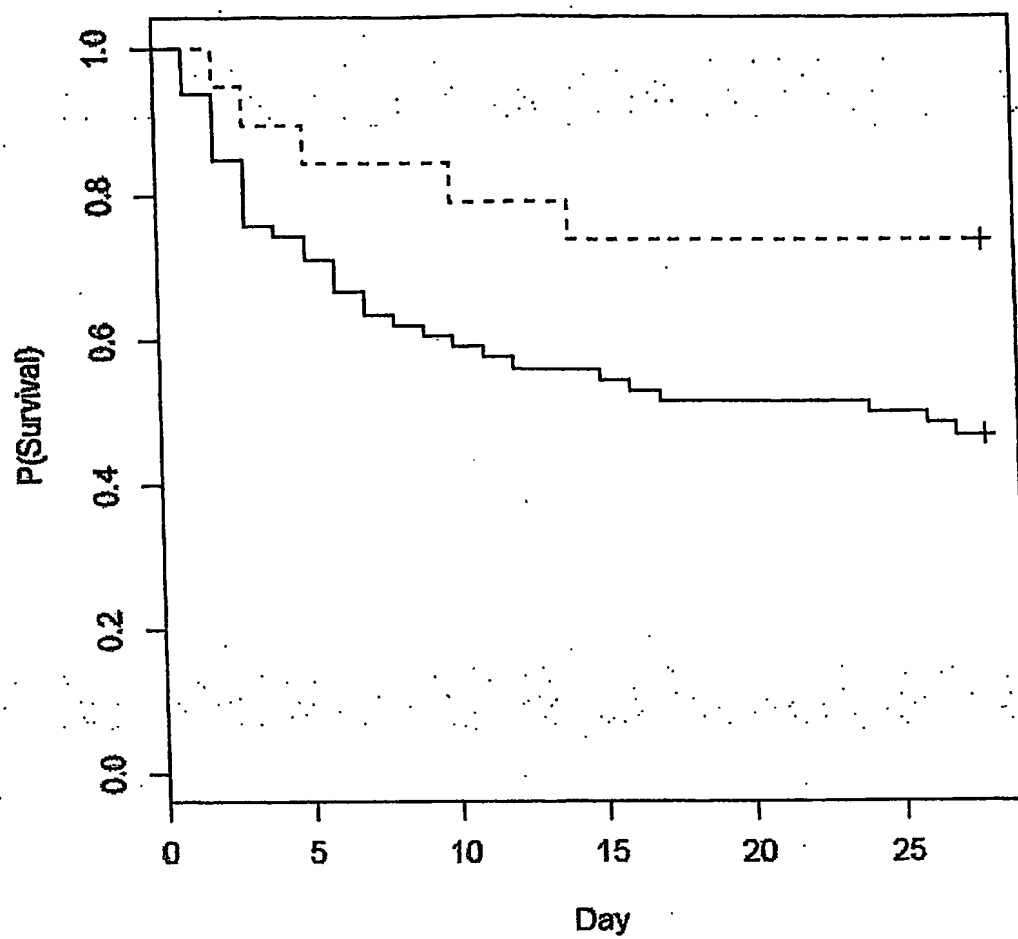
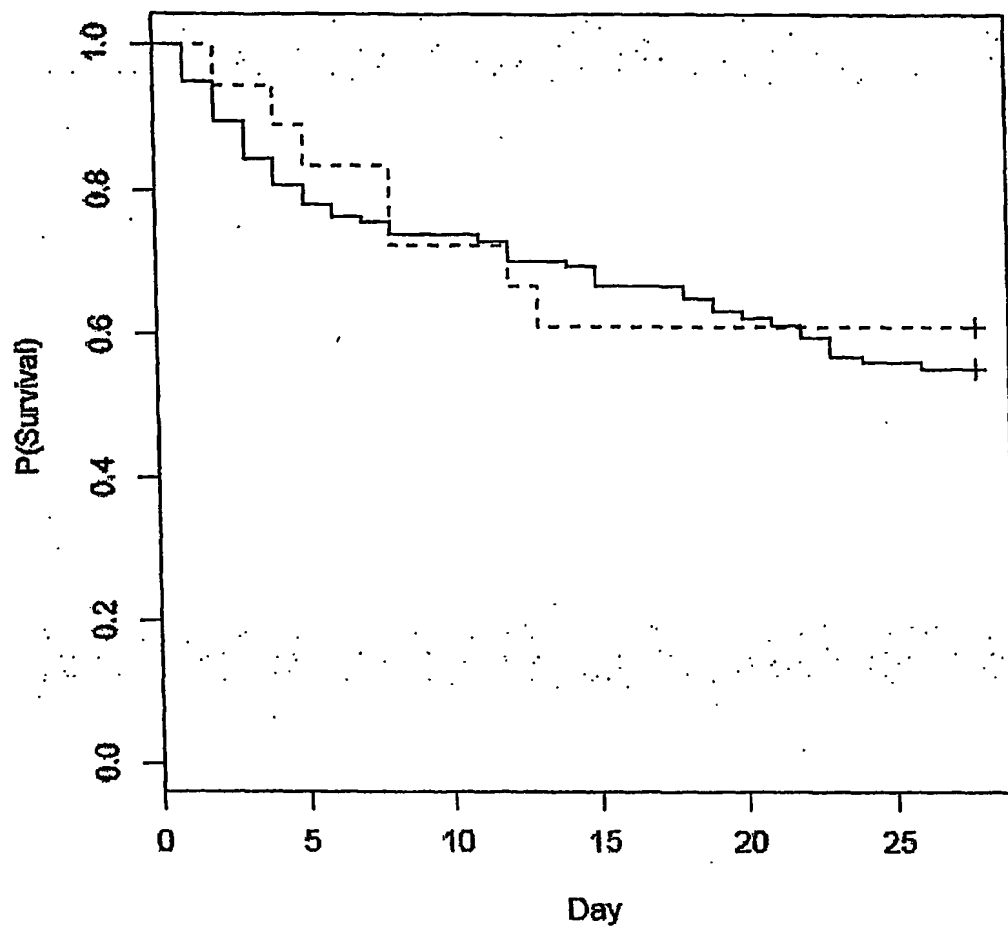


FIGURE 6B

**FIGURE 7**

**FIGURE 8**

**FIGURE 9**

**FIGURE 10**

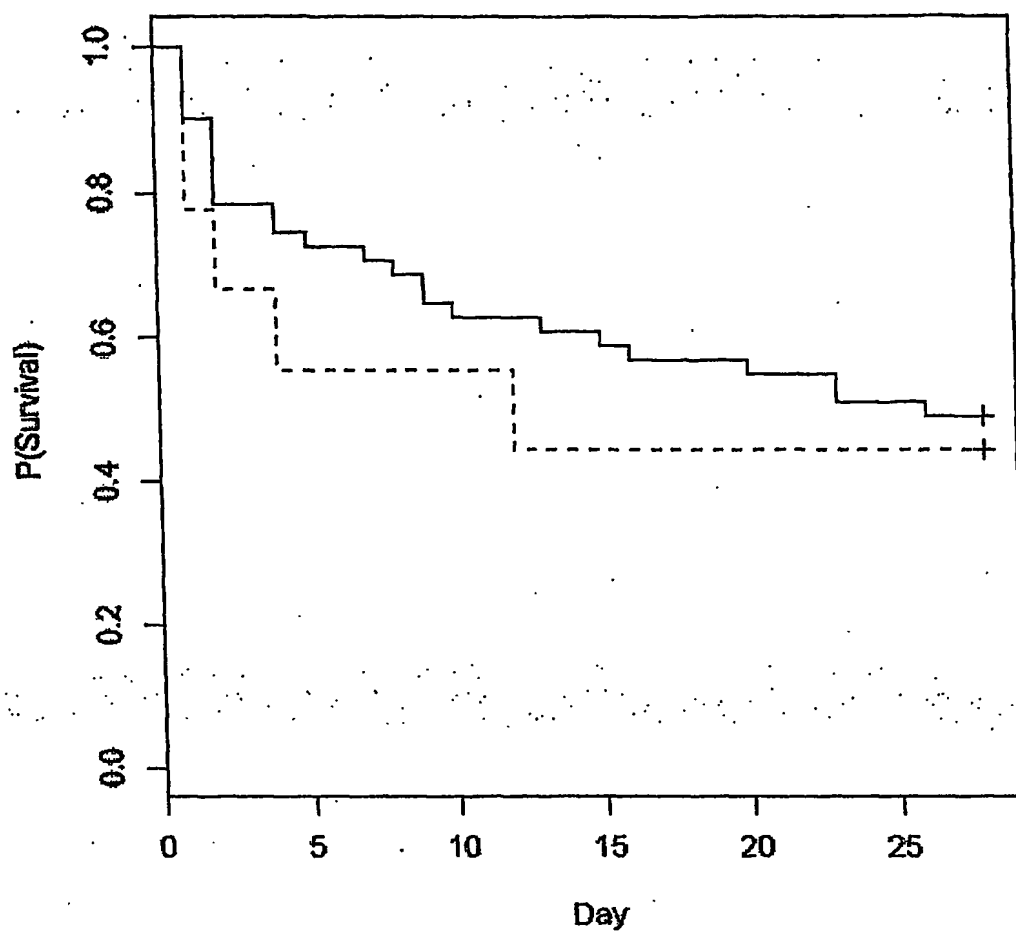
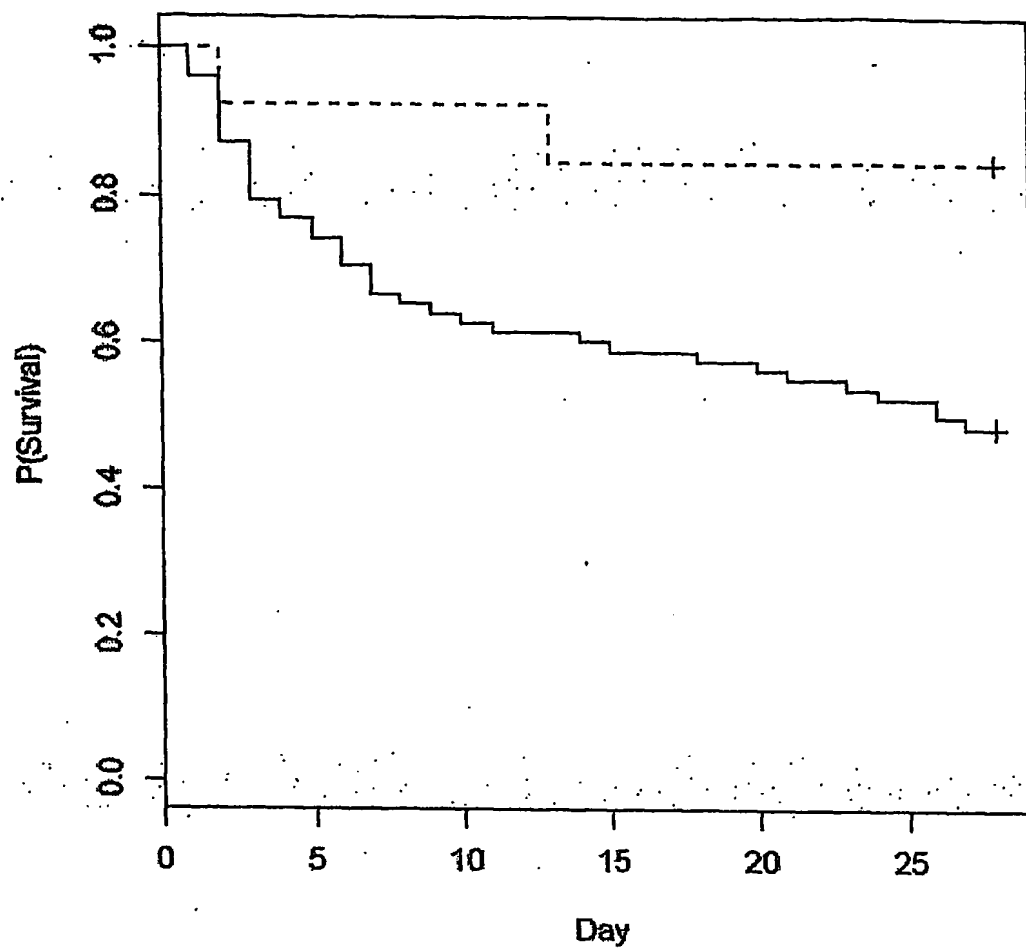
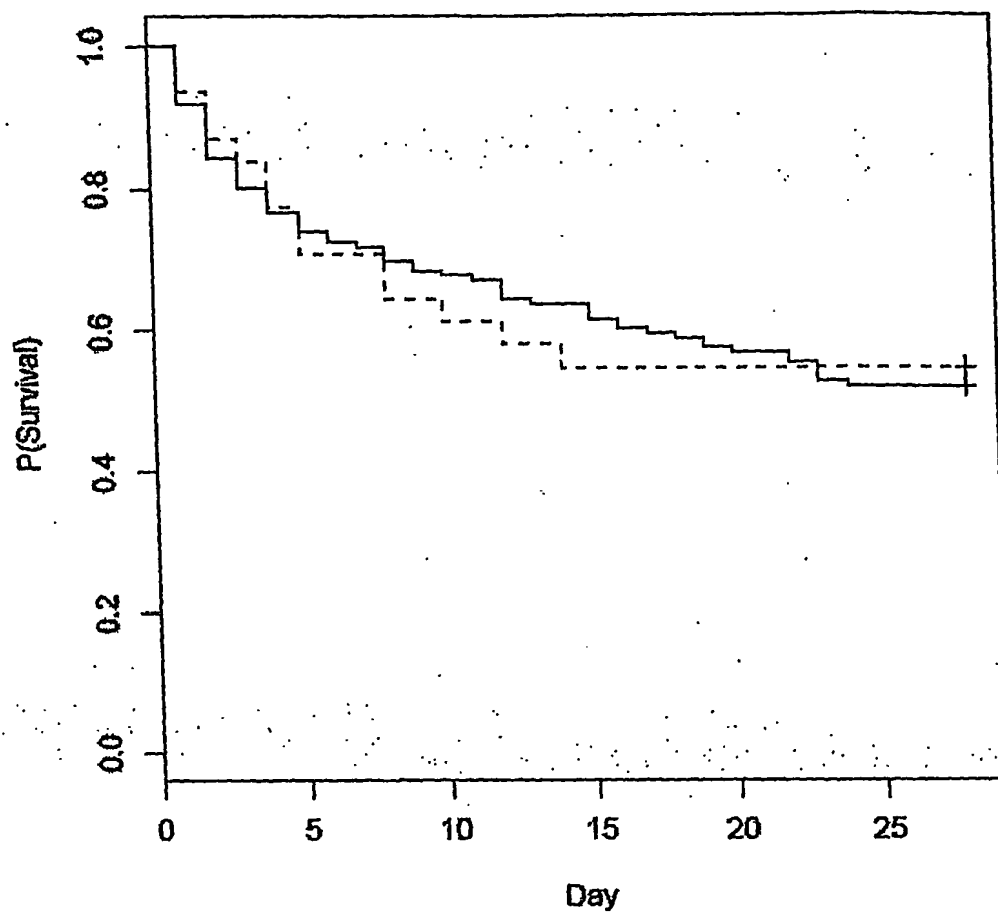


FIGURE 11

**FIGURE 12**

**FIGURE 13**

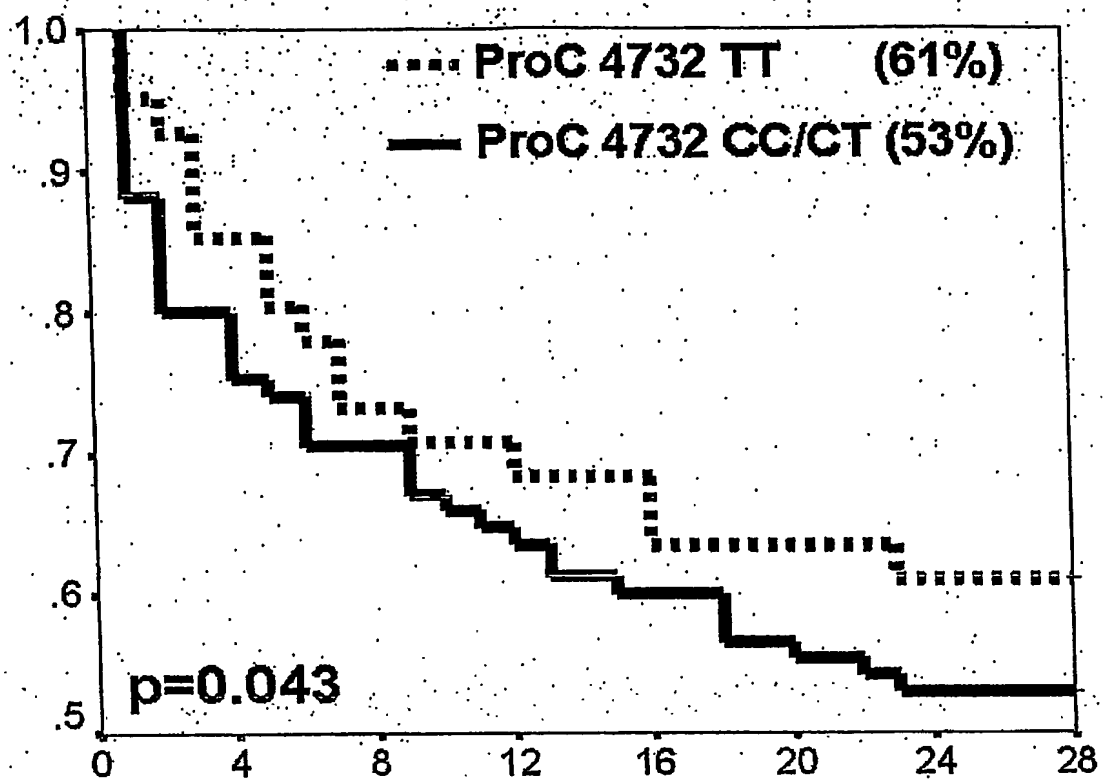
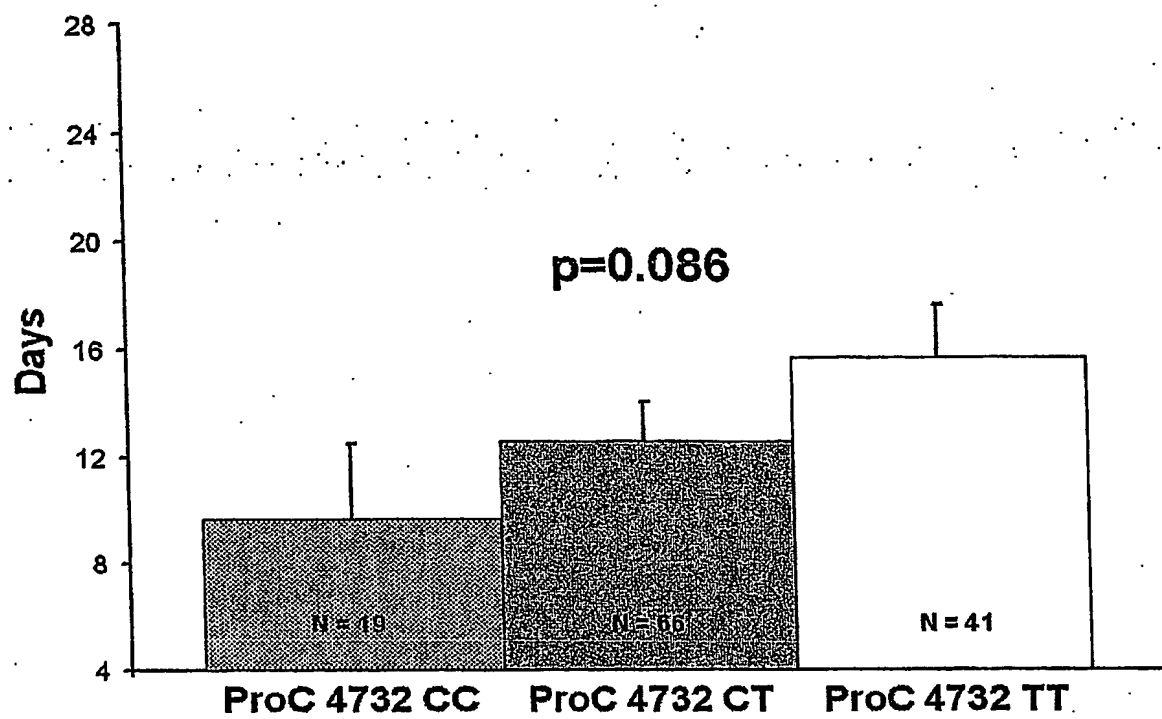


FIGURE 14

**FIGURE 15**

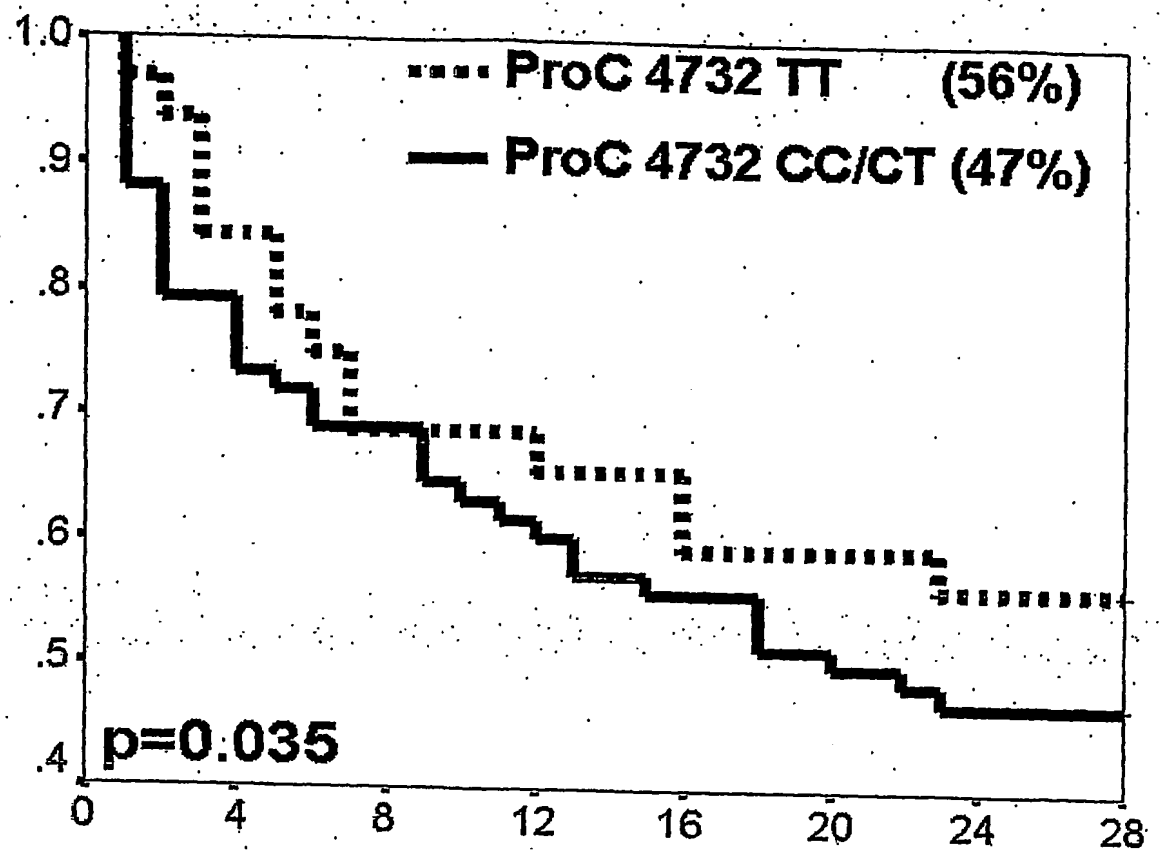


FIGURE 16

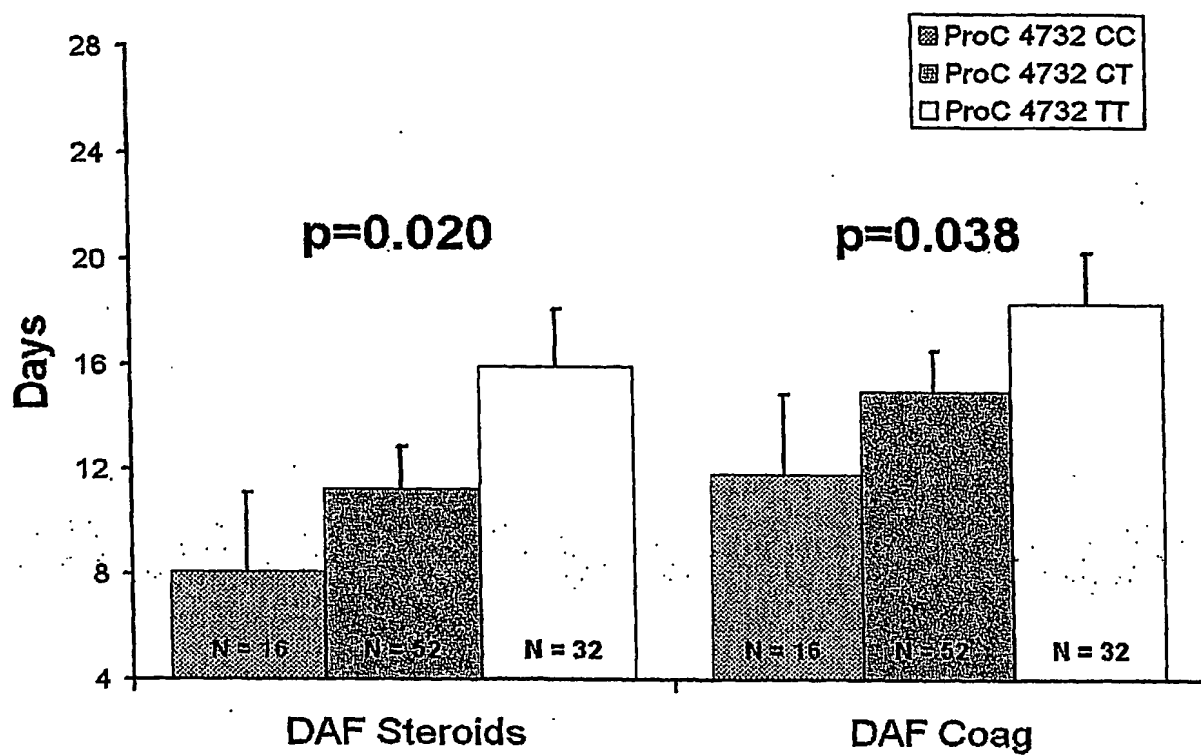


FIGURE 17

**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☒ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☒ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☒ OTHER: \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**